

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A60EU
Revision 17

SOCATA
TBM 700

April 6, 2009

TYPE CERTIFICATE DATA SHEET NO. A60EU

This data sheet which is part of Type Certificate No. A60EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder SOCATA
65921 - TARDES Cedex 9
France

Type Certificate Holder Record EADS SOCATA transferred to SOCATA
on April 6, 2009

I. Model TBM 700, 6 PCLM (Normal Category) approved August 28, 1990.
[See note 4 and Equipment section for cargo conversion information]

Engine Airplanes not equipped with modification No MOD. 70-0188-00 (see note 7):
Pratt and Whitney of Canada, Ltd., PT6A-64 Turbo prop

Airplanes equipped with modification No MOD. 70-0188-00 (see note 7):
Pratt and Whitney of Canada, Ltd., PT6A-66D Turbo prop

Fuel	Jet A, Jet A1, Jet B, JP4, JP5, JP8, anti-ice additive according to the specification MIL-I-27686 E or specification MIL-I-85470 A in the following proportions: minimum content 0.06% by volume maximum content 0.15% by volume
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Engine Limits	Airplanes <u>not</u> equipped with modification No MOD. 70-0188-00 (see note 7):
	Take-off and maximum continuous power 700 SHP
	Gas generator rotation speed 39 000 RPM (104.1 %)
	Propeller rotation speed 2 000 RPM
	Interturbine maximum temperature 800°C
	Oil: minimum pressure 60 psi
	maximum pressure 135 psi
	maximum temperature 104°C

Airplanes equipped with modification No MOD. 70-0188-00 (see note 7):		
Take-off power (flap extended)		700 SHP
Maximum continuous power (flap up)		850 SHP
Gas generator rotation speed	39 000 RPM (104.1 %)	
Propeller rotation speed		2 000 RPM
Interturbine maximum temperature for take off		850°C
Interturbine maximum temperature for climb/cruise		840°C
Oil:	minimum pressure	60 psi
	maximum pressure	135 psi
	maximum temperature	104°C

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Propeller and Propeller Limits	HARTZELL Constant speed HC-E4N-3 / E9083 S (K)		
	Diameter: not over 91 in., not under 90 in.		
	Pitch setting at 30 in., sta.:	Low	21°
		Feather	86°
		Reverse	- 11°
Airspeed Limits	VMO	(Maximum operating speed)	270 KCAS
	VA	(Maneuvering speed)	160 KCAS
	VFE	(Maximum flaps extended speed)	
		Landing configuration	120 KCAS
		Takeoff configuration	180 KCAS
	VLO	(Maximum landing gear operation speed)	
		retraction	130 KCAS
		extension	180 KCAS
	VLE	(Maximum landing gear extended speed)	180 KCAS
C.G. Range	Airplanes <u>not</u> equipped with modification No. MOD 70-139-00 (see note 6):		
	(+ 181.3) to (+ 194.9) at 4409 lbs. or less		
	(+ 183.6) to (+ 194.9) at 6250 lbs. or less		
	(+ 184.8) to (+ 194.3) at 6579 lbs. or less		
	Straight line between points given.		
	Airplanes equipped with modification No. MOD 70-139-00 (see note 6):		
	(+ 181.3) to (+ 194.9) at 4409 lbs. or less		
	(+ 183.6) to (+ 194.9) at 6250 lbs.		
	(+ 185.3) to (+ 194.3) at 6579 lbs.		
	(+ 187) forward limit at 7024 lbs.		
	(+ 187) to (+ 193.65) at 7394 lbs.		
	Straight line between points given.		
Empty Weight C.G. Range	None		
Maximum Weight	Airplanes <u>not</u> equipped with modification No. MOD 70-139-00 (see note 6):		
	6579 lbs.:	takeoff	
	6250 lbs.:	landing	
	6614 lbs.:	ramp	
	Airplanes equipped with modification No. MOD 70-139-00 (see note 6):		
	7394 lbs.:	takeoff	
	7024 lbs.:	landing	
	7430 lbs.:	ramp	
Number of Seats & Maximum Baggage	Standard version		
	Seats limits		
	1 thru 6 seats		
	-2 seats at +180.5	}	See * 1
	-2 seats at +219.1	}	
	-2 seats at +259.3	}	
	-2 seats at +180.5	}	See * 2
	-2 seats at +222.1	}	
	-2 seats at +272.3	}	

Number of Seats &
Maximum Baggage
(Continued)

Baggage limits

-In the front compartment: 110 lbs. at 128.0

-Behind the cabin: 220 lbs. at 297.6} See * 1

-Behind the cabin: 220 lbs. at 303} See * 2
100 lbs. at 303} See * 3

-In the rear compartment: 77 lbs. at 340.9} See * 4

* 1: Valid S/N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification No. MOD 70-019-25.

* 2: Valid S/N 24, 26, 27, 29 to 32, 34, 36 to 9999, except airplanes equipped with modification No. MOD 70-139-00 (see note 6), plus airplanes equipped as a retrofit with modification No. MOD 70-019-25.

* 3: Valid airplanes equipped with modification No. OPT 70-01-029 or modification No. MOD 70-139-00 (see note 6)

* 4: Valid for airplanes equipped with modifications No. MOD 70-139-00 (see note 6) or MOD 70-140-00.

7-place accommodation

A. Option No. OPT 70-25-002 A

Seats limits

1 to 7 seats

- L.H. and R.H. front seats at +180.5
- L.H. and R.H. intermediate seats at +216.8
- R.H. rear seat at +249.0
- two-place rear divan at +283.6

Baggage limits

- In the front compartment: 110 lbs. at 128.0
- Behind the cabin: 77 lbs. at 309.0

B. Option No. OPT 70-25-002 B or Option No. OPT 70-25-002 C

Seat Limits

1 to 7 seats

- L.H. and R.H. front seats at +180.5
- L.H. intermediate seats at +223.1
- R.H. intermediate seats at +209.5
- R.H. rear seat at +239.5
- two place rear divan at +272.3

Baggage limits

- In the front compartment: 110 lbs. at 128.0
- Behind the cabin: 77 lbs. at 303.0

Fuel Capacity

Airplanes not equipped with modification No. MOD 70-0211-57:
290.6 gal. (two 145.3 gal. at + 189.8 : 281.6 gal. usable)
See Note 1 for weight and unusable fuel

Airplanes equipped with modification No. MOD 70-0211-57:
301 gal. (two 150.5 gal. at + 189.8 : 292 gal. usable)
See Note 1 for weight and unusable fuel

Oil Capacity

12.7 qt at (+ 82.3) (6 qt unusable)
See Note 1 for weight

Maximum Operating Altitude

Airplanes not equipped with modifications No. OPT 70-01-026,
MOD 70-139-00 nor MOD 70-140-00: 30,000 ft.

Airplanes equipped with modifications No. OPT 70-01-026, MOD 70-139-00 or MOD 70-140-00:		31,000 ft.
Control Surface Movements	Elevator (Angles references: stabilator chord)	
	Nose-up attitude:	$30^{\circ} \pm 1.5^{\circ}$
	Nose-down attitude:	$10^{\circ} \pm 1^{\circ}$
	Stabilator tab (elevator at 0°)	
	Nose-up attitude:	$20^{\circ} \pm 1^{\circ}$
	Nose-down attitude:	$15^{\circ} \pm 1^{\circ}$
	Roll	
	- Ailerons (Reference : wing chord)	
	up	$15^{\circ} \pm 1^{\circ}$
	down	$20^{\circ} \pm 1^{\circ}$
	- Spoiler (Reference : wing chord)	
	up	$58^{\circ} \pm 2^{\circ}$
	down	$20.5^{\circ} \pm 1^{\circ}$
	- Tab	
	up	$14^{\circ} \pm 1^{\circ}$
	down	$14^{\circ} \pm 1^{\circ}$
	Yaw control	
	Rudder (Reference : fin chord)	
	left turn	$26^{\circ} \pm 1^{\circ}$
	right turn	$35^{\circ} \pm 1.5^{\circ}$
	Rudder tab (Reference : rudder chord)	
	left turn	$9.5^{\circ} \pm 1^{\circ}$
	right turn	$13.5^{\circ} \pm 1^{\circ}$

DATA PERTINENT TO ALL MODELS

Certification Basis	Effective date of certification basis:	January 15, 1987
	Date of U.S. application:	January 22, 1988
	Type Certificate issued on August 28, 1990	
	Type Certification under 14 CFR Section 21.29 including the following requirements:	
	Airplanes <u>not</u> equipped with modification No. MOD 70-139-00 (see note 6):	
	- 14 CFR Part 23 effective February 1, 1965, including Amendments 23-1 through 23-34 and Sections 23.783, 23.811 and 23.807 of Amendments 36	
	- 14 CFR Part 36 effective December 1, 1969, including Amendments 36-1 through Amendment 36-17.	
	- Special Federal Aviation Regulation Number 27, effective February 1, 1974 including Amendments 27-1 through 27-6.	
	Airplanes equipped with modification No. MOD 70-139-00 (see note 6):	
	- 14 CFR Part 23 effective February 1, 1965, including Amendments 23-1 through 23-34, Sections 23.783, 23.811 and 23.807 of Amendments 36 and Sections 23.49, 23.561, 23.562 and 23.785 of Amendment 44.	
	- 14 CFR Part 34 effective September 10, 1990, including Amendments 34-1 through Amendment 34-3.	
	- 14 CFR Part 36 effective December 1, 1969, including Amendments 36-1 through Amendment 36-22.	
	Airplanes (s/n 269, 434-9999) equipped with modification No. MOD 70-0211-57 ("Fuel tanks extension"), modification No. MOD 70-0176-00 ("Garmin G1000"), and optional modification No. MOD 70-0226-00 ("SVS" option to G1000)	
	(see notes 8, 9, 10, 11, 12):	
	- 14 CFR Part 23 effective February 1, 1965, including Amendments 23-1 through 23-34, Section 23.1301 of Amendment 23-20, Sections 23.783, 23.811	

and 23.807 of Amendments 36, Sections 23.1322 and 23.1331 of Amendment 43, Sections 23.49, 23.561, 23.562 and 23.785 of Amendment 44, Sections 23.1309, 23.1311 23.1321, 23.1323, 23.1353, 23.1365 and 23.1431 of Amendment 49 and Section 23.1308 of Amendment 57.

- 14 CFR Part 34 effective September 10, 1990, including Amendments 34-1 through Amendment 34-3.

- 14 CFR Part 36 effective December 1, 1969, including Amendments 36-1 through Amendment 36-22.

Equivalent Safety Items:

Equivalent levels of safety finding made per the provisions of 14 CFR Part 21.21(b)(1) for:

ELOS ACE-02-01 : 14 CFR §23.807(a)(1), Emergency Exits; Refer to FAA letter dated October 7, 2001, applicable to cargo configured airplanes only (See Note 4.)

Approved for flight into known icing.

Direction Générale de l'Aviation Civile (DGAC) originally type certified this aircraft under its type certificate number TC 181, and EASA Type Certificate Number EASA.A.010. The FAA validated this product under U.S. Type Certificate Number A60EU. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of France.

Import Requirements

- a) To be considered eligible for operation in the United States, each aircraft manufactured under this type certificate must be accompanied by a certificate of airworthiness for export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states (in the English language): This aircraft conforms to its U.S. type design (type certificate number A60EU) and is in a condition for safe operation.
- b) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183 (c) or 21.185(c).
- c) The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Section 21.183(d) or 21.183(b).

The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Direction Générale de l'Aviation Civile (DGAC) on behalf of the European Community. The Export C of A should contain the following statement: 'The aircraft covered by this certificate has been examined, tested, and found to comply with U.S. airworthiness regulations 14 CFR 23 approved under U.S. Type Certificate No. A60EU and to be in a condition for safe operation.'

Serial Nos. Eligible

A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for U.S. certification is made.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for certification. Approved equipment is listed as follows:
Main equipment list : NAV Nr 34/90 edition 2 or later revision

In addition, the following items of equipment are required:
French DGAC or EASA approved Pilot's Operating Handbook

For aircraft with the Modification No. MOD 70-091-52 "Wide Entrance Door" or Option No. OPT 70-52-002 "Pilot Door" the Pilot's Operating Handbook must be at revision 7 or later revision.

For aircraft with option No OPT 70-25-027 Cargo Transportation Capability installed Pilot's Operating Handbook Supplement 30 revision 2 or later revision must be utilized.

For aircraft with Modification No MOD 70-140-00 "TBM 700 C1 version" the "C1 version" of the Pilot's Operating Handbook is required.

For aircraft with Modification No MOD 70-139-00 (see note 6), the "C1 version" of the Pilot's Operating Handbook is required and Pilot's Operating Handbook Supplement 41 must be utilized.

For aircraft with Modification No. MOD 70-0188-00 "TBM700 N version", the "TBM850 " Rev 1 (P/N T00.DMNFM01EEN) or later approved Pilot's Operating Handbook is required (see note 7).

For aircraft with Modification No. MOD 70-0176-00 Pilot's Operating Handbook TBM850 Edition 1, Rev 0 (P/N Z00.DMNFM00EE1R0EN) or later approved Pilot's Operating Handbook is required (see notes 8, 9, 10).

For aircraft with Optional Modification No MOD 70-0226-00 (Synthetic Vision System (SVS)) must have TBM 700 POH- titled "TBM 850 supplement 50 Revision 0" with EASA approval date November 17, 2008 or later FAA/EASA approved revisions (see Note 12).

Datum 118.11 in. ahead of firewall front face.

Leveling Means Cabin floor mounting rail.

Service Information Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003 – by the Direction Générale de l'Aviation Civile (DGAC).

- Service bulletins,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- Overhaul and maintenance manuals.

The FAA accepts such documents and considers them FAA-approved unless one of the following conditions exists:

- The documents change the limitations, performance, or procedures of the FAA approved manuals; or
- The documents make an acoustical or emissions changes to this product's U.S. type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

Note 1 Current weight and balance report, including list of equipment included in certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include unusable fuel of 60 lb at (+189.8) and full oil of 23.8 lb at (+82.3)

Note 2 The placards specified in the DGAC/EASA approved Pilot's Operating Handbook must be displayed.

Note 3 Airworthiness Limitations are contained in Chapter 4 of the FAA and DGAC/EASA approved TBM 700 aircraft maintenance manual Rev 31, (P/N Z00.DMAMMPXEE0R31), or later approved revision. These Limitations may not be changed without FAA approval and EASA approval.

Note 4	<p>TBM 700 Cargo Version:</p> <p>Airplanes to be converted to the cargo version must be modified with SOCATA option No. OPT 70-52-002 "Pilot Door" MOD 70-091-52 "Wide Entrance Door" and must also be modified for cargo operations by having SOCATA option No. OPT70-25-027 "Cargo Transportation Capability" installed. Cargo aircraft must be operated with appropriate Pilot's Operating Handbooks and Supplements as described in the Equipment section of this data sheet.</p> <p>Cargo aircraft seating capacity:</p> <p>Airplanes equipped with SOCATA option No. OPT70-25-027 version A (R.H. emergency exit <u>not</u> accessible):</p> <ul style="list-style-type: none"> - limited to one occupant (pilot) as defined in equivalent level (ELOS) of safety ACE-02-01. (See Certification Basis.) <p>Airplanes equipped with SOCATA option No. OPT70-25-027 version B (R.H. emergency exit accessible):</p> <ul style="list-style-type: none"> - limited to two occupants (front seats)
Note 5	<p>TBM 700 airplane serial numbers 245 and 246 may be modified to the Modification No MOD 70-140-00 "TBM 700 C1 Version" configuration when accomplished in accordance with DGAC approved technical instructions and other applicable requirements of this data sheet.</p>
Note 6	<p>SOCATA modification No MOD 70-139-00 allows an extended MTOW.</p> <p>It is an optional modification applicable to s/n 205, 240, 244-9999. The retrofit is possible only for airplanes within the above range of serial numbers already equipped with SOCATA modification No MOD 70-140-00 "TBM700 C1 Version".</p>
Note 7	<p>SOCATA modification No MOD 70-0188-00 "TBM700 N version" allows a maximum continuous power of 850 shp for climb and cruise (i.e. with flaps up), and a maximum power of 700 shp when flaps are extended.</p> <p>This modification basically consists in the installation of PT6A-66D in lieu of PT6A-64 engine. It is applicable to TBM700 s/n 346-9999.</p> <p>"TBM850" is the trade name of the "TBM700 N version".</p>
Note 8	<p>SOCATA modification No MOD 70-0211-57 "Fuel tanks extension" extends the wing fuel tanks by one bay (between wing ribs 18 and 19) further outboard on each wing. The modification relocated the fuel tank filler cap, fuel vent, temperature probe, and pitot probe. There is no change to the external wing geometry, MTOW, center of gravity, or aircraft flight envelope.</p>
Note 9	<p>SOCATA modification No MOD 70-0176-00 "Garmin G1000" factory installs Garmin G-1000 Integrated Avionics System as standard equipment on model TBM700 ("TBM850").</p>
Note 10	<p>SOCATA modification No MOD 70-0211-57 is only applicable to model TBM 700 ("TBM850") s/n 269, 434-9999 equipped with MOD 70-188-00.</p> <p>SOCATA modification No MOD 70-0176-00 is only applicable to model TBM700 ("TBM850") s/n 269, 434-9999 equipped with MOD 70-188-00, MOD 70-211-57 and MOD 70-0158-28 (Fuel Gauging Amplifier).</p> <p>SOCATA modification No MOD 70-0211-57 and MOD 70-0176-00 are installed in conjunction at the factory and are only applicable to model TBM700 ("TBM850") s/n 269, 434-9999.</p> <p>Previously manufactured aircraft are not eligible to be retrofitted with MOD 70-0211-57 or MOD 70-0176-00.</p>

- Note 11 Airplanes (s/n 269, 434-9999) are equipped with SOCATA modification No. MOD 70-0176-00 ("Garmin G1000") and meet the initial airworthiness requirements for operation in Reduced Vertical Separation when required equipment (refer to Pilot Operating Handbook List of Critical RVSM equipment) is maintained in accordance with the airplane Maintenance Manual. Each operator must obtain final RVSM operating approval directly from the FAA.
- Note 12 Airplanes (s/n 269, 434-9999) which have SOCATA modification No. MOD 70-0176-00 ("Garmin G1000") are eligible for Optional SOCATA modification No. MOD 70-0226-00 (Synthetic Vision System (SVS)). These airplanes can be modified through incorporation of SOCATA optional service bulletin SB70-164-34 in the field or by SOCATA at the factory under their major level 1 type design approval. Airplanes with this SVS modification must have SOCATA TBM 700 POH titled "TBM 850 supplement 50 Revision 0" with EASA approval date November 17, 2008 or later FAA/EASA approved revisions.

- END -